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UTILITY APPLICATION FOR UNITED STATES PATENT

FOR

A METHOD OF CONSTRUCTING MULTI-STOREY BUILDING BALCONIES

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**A METHOD OF CONSTRUCTING MULTI-STOREY BUILDING BALCONIES****BACKGROUND OF THE INVENTION**

The present invention relates to building methods, and more particularly to a  
5 method of constructing balconies to exterior building walls.

In the industry of building constructions there are generally known buildings (1)  
originally provided with balconies extending outdoors of the building line; (2)  
buildings without balconies; or (3) interior balconies.

Buildings of the second category are sometimes desired to be converted into  
10 the first category, namely with exterior balconies. If conventional methods are to be  
applied, this will demand the erection of scaffolding, casting concrete in suitable  
forms, etc., which of course is highly inconvenient, expensive and involves  
considerable nuisance to the tenants of the building in question.

Certain attempts have been made to remedy these disadvantages by employing  
15 industrialized building techniques – see for example DE19600255, EP0417127 and  
WO9324710. However, these methods were still complicated to practice and never  
gained commercial success.

It is therefore the object of the present invention to provide a quick, low-cost  
and effective method of constructing exterior balconies onto existing building exterior  
20 walls.

It is a further object of the invention that the balconies be of the pre-fabricated  
type, namely industrially manufactured in plants, and brought to the building site for  
immediate mounting to the building.

It is a still further object of the invention that the operations of breaking-  
25 through to and flooring the balcony can take place at any time later on, as  
convenient to the tenants.

**SUMMARY OF THE INVENTION**

Thus, provided according to the present invention is a method of constructing  
30 multi-storey building balconies, comprising the steps of prefabricating a balcony  
skeleton having a floor beam structure platform, a three-side rail, attachment means

for anchoring the balcony skeleton to an exterior building wall and a support member configured to be supported by a first tubular post extending from below, as well as to support a second tubular post extending upright above the platform; erecting the first tubular post from the ground in alignment with the support member; lifting a  
 5 first balcony skeleton up to a first storey location against the building wall; supporting the balcony by the first tubular post; anchoring the skeleton to the building wall by the attaching means; mounting the second tubular post on the support member; lifting a second balcony up to a second storey location; supporting the balcony by the second tubular post; anchoring the balcony to the building wall by  
 10 the attaching means; and so forth with respect to the remaining stories of the building; breaking openings in the building wall to attain access to the respective balconies and completing the floor of the balcony by any known method.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

15 These and additional features and advantages of the invention will become more clearly understood in the light of the ensuing description of preferred embodiments thereof, given by way of example only with reference to the accompanying drawings, wherein: -

Fig. 1 is a general schematic representation of the first stage of applying the  
 20 method proposed according to the present invention;

Fig. 2 illustrates the second stage of applying the method according to the present invention;

Fig. 3 illustrates the following stage;

Fig. 4 illustrates the final stage of applying the method according to the present  
 25 invention;

Fig. 5 is a partial top view of a balcony platform structure;

Fig. 6 is a section taken along line VI-VI of Fig. 5;

Fig. 7 illustrates the completion stage of the first storey balcony; and

Fig. 8 illustrates the application of the method to a double-sided balcony  
 30 structure.

## DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

As shown in Fig. 1, the building, generally denoted 10 is of the non-exterior balconies type, but only with different kinds of window openings 14, 16 at exterior wall 12 thereof.

5 Let us assume that a balcony is desired to be erected and applied to the wall 12 in front of window opening 14.

A pre-fabricated balcony skeleton generally denoted 20 is separately manufactured (see below) lifted by crane 18 in order to be installed at its appropriate location.

10 As can be seen, the pre-fabricated balcony 20 is of minimum weight, and actually comprises only a skeleton or framework of the balcony. Hence, there is provided only a floor platform structure denoted 22 (see Figs. 5 and 6) made of cross beams 24 welded or otherwise connected to each other, and a three-sided rail 26.

At the geometrical center of the platform 22 a support member 30 is  
15 connected, e.g. by welding at a junction of cross beams 24. The support member 30 is in the form of a tubular sleeve projecting to a certain extent from both sides of the platform 22, thereby enabling attaching thereto, in a telescopic manner, a first circular post 32(1) extending from below, and a second tubular support 32(2) extending above the platform 22 (see below).

20 Turning back to Fig. 1, there is shown, regarding the first stage of the method of the present invention, the erection of the first tubular post or column 32(1) suitably anchored to the ground, as shown in Fig. 6.

Referring now to Fig. 2, the first stage of erecting the balcony 20 of the first storey is to bring it next to the appropriate location, namely below the window  
25 opening 14, and causing the support member 30 to become seated on top of the post 32(1), thus be temporarily supported thereon. Then, suitable attaching means such as wall plugs 34 (only one being shown in Fig. 6) are used to anchor the open side of the balcony 20 to the exterior wall 12 of the building 10.

In the following stage illustrated in Fig. 3, once suitably anchored to the wall  
30 and supported by the post 32(1), post 32(2) is mounted to the support member 30

in preparation of the second storey balcony to be applied in the same manner as the first storey.

As shown in Fig.4, and in more detail in Fig. 7, the wall adjacent the balcony (formerly window 14) is broken to attain access to the balcony, and to complete the flooring 38. It is important to note that the weight of the balcony is kept at minimum for the purpose of easy maneuvering thereof during the installation stages.

This completes the application of the balcony to the first storey, and the same procedure will be applied to the balconies of the second, third and so forth stories.

While the embodiment described is the most simple and basic one, for illustration purposes only, it will be readily understood that many variations can be applied. One example is schematically shown in Fig. 8 where a double-sided balcony 120 is constructed, intended to be used by neighboring apartments.

An intermediate partition 140 would be necessary, and can be used for further stabilizing and better supporting the balcony 120 by applying additional anchoring facilities to the building wall (not shown).

The method provided according to the invention is thus flexible, versatile and provides a low-cost and effective solution to the problem of attaining more comfort and additional space to apartments.

Those skilled in the art will readily appreciate that numerous additional variations and modifications may be applied to the invention as heretofore exemplified without departing from the scope thereof as defined in and by the appended claims.

**WHAT IS CLAIMED IS:**

1. A method of constructing multi-storey building balconies, characterized by the steps of:
  - (a) prefabricating a balcony skeleton comprising -
    - a floor beam structure platform;
    - a three-side rail;
    - attachment means for anchoring the balcony skeleton to an exterior building wall; and
    - a support member located at about the center of the platform configured to be supported by a first tubular post extending from below, as well as to support a second tubular post extending upright above the platform;
  - (b) erecting the first tubular post from the ground in alignment with the support member ;
  - (c) lifting a first balcony skeleton up to a first storey location against the building wall;
  - (d) supporting the balcony skeleton by the first tubular post;
  - (e) anchoring the balcony skeleton to the building wall by the attaching means;
  - (f) mounting the second tubular post to the support member;
  - (g) lifting a second balcony up to a second storey location;
  - (h) supporting the second balcony by the second tubular post;
  - (i) anchoring the second balcony to the building wall by the attaching means;
  - and so forth with respect to the remaining stories of the building;
  - (j) breaking openings in the building wall to attain access to the respective balconies; and
  - (k) completing the floor of the balcony by any known method.
2. The method of claim 1 wherein the tubular posts are telescopically received by the support member.

3. The method of claim 1 wherein the balcony is supported by two or more tubular posts.

## **ABSTRACT**

A method of constructing balconies (20) to exterior walls (12) of buildings (10). A prefabricated balcony skeleton having a floor beam structure platform (22) and a three-side rail (26) is brought by crane (18) to the designed location of the first storey and supported by a post [32(1)] and wall plugs (34). The balcony skeleton of the second storey is supported by post [32(2)], and so forth. The respective portion of the exterior wall (12) is then broken for completing the balcony floor.